

Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (original) A network comprising:

a first carrier network employed by a layer-1 VPN service provider;
layer-1 VPN information created within said first carrier network;
a second carrier network employed by a different service provider;
layer-2 VPN information created within said second carrier network; and
a BGP session for transmitting said layer-2 VPN information from said second network to said first carrier network.

2. (original) A network as claimed in claim 1 wherein an auto-discovery mechanism for said second carrier network is outsourced to said first carrier network.

3. (currently amended) A network as claimed in claim 2 wherein both layer-1 VPN auto-discovery and layer-2 VPN auto-discovery are carried out within said first carrier network.

4. (original) A network as claimed in claim 3 wherein said first carrier network includes at least two provider edge devices, and a backbone separates said at least two provider edge devices.

5. (original) A network as claimed in claim 4 wherein said at least two provider edge devices are Layer-1 and/or GVPN-based, and said backbone includes a portion of the Internet.

6. (original) A network as claimed in claim 4 wherein said second carrier network includes a provider edge device that is a selected one of the following: a layer-2 VPN-based provider edge device, a layer-3 VPN-based provider edge device, and a layer-2 and layer-3 VPN-based provider edge device.

7. (currently amended) A method for distributing layer-2 VPN information comprising ~~the steps of:~~

using BGP sessions and a discovery mechanism of a first layer-1 provider edge device to distribute received layer-2 VPN information to a ~~remote~~ second layer-1 provider edge device; and

passing said layer-2 VPN information from said ~~remote~~ second layer-1 provider edge device to an attached layer-2 provider edge device, wherein a discovery mechanism of said second layer-1 provider edge device simplifies operations for a layer-2 service provider.

8. (currently amended) A method as claimed in claim 7 further comprising ~~the step of advertising~~ said layer-2 VPN ~~discovery~~ information to said first layer-1 provider edge device before ~~the step of~~ said using said BGP sessions and said discovery mechanism.

9. (original) A method as claimed in claim 8 wherein at least one inter-carrier BGP session is a mechanism for said advertising.

10. (currently amended) A method as claimed in claim 9 wherein said inter-carrier BGP session is set up between said first layer-1 provider edge device and another provider edge device that is a selected one of the following: a layer-2 VPN-based provider edge device, and a layer-2 and layer-3 VPN-based provider edge device.

11. (currently amended) A method as claimed in claim 10 wherein said another provider edge device is a part of a provider network, and said first layer-1 provider edge device is a part of a sub-provider network.

12. (currently amended) A method as claimed in claim 11 wherein said first layer-1 provider edge device and said remote second layer-1 provider edge device are separated by a backbone.

13. (original) A method as claimed in claim 12 wherein said backbone includes a portion of the Internet.

14. (original) A method as claimed in claim 13 wherein said another provider edge device interfaces with a VPN.

15. (currently amended) A network comprising:

a backbone;

at least two provider edge devices connected to and working with said backbone; and

layer-1 VPN information and layer-2 VPN information processed by one of said at least two provider edge devices;

a layer-2 provider edge device attached to said one of said at least two provider edge devices, said layer-2 provider edge device configured to advertise said layer-2 VPN information to said one of said at least two provider edge devices,

wherein said one of the said at least two provider edge devices has is configured to use a discovery mechanism for distributing said layer-2 VPN information.

16. (original) A network as claimed in claim 15 wherein said at least two provider edge devices are GVPN-based.

17. (original) A network as claimed in claim 16 wherein said at least two provider edge devices are a part of a network of a first service provider.

18. (original) A network as claimed in claim 17 further comprising a second service provider having its own network, said second service provider being a customer of said first service provider.

19. (currently amended) A network as claimed in claim 18 wherein both layer-1 VPN auto-discovery and layer-2 VPN auto-discovery are carried out within said network of the first service provider.

20. (original) A network as claimed in claim 15 wherein said backbone includes a portion of the Internet.